



# FORMULAS

'The laws of nature are but the mathematical thoughts of God.'  
Euclid

FORMULA No.

**W41**

[www.and-just-math.com](http://www.and-just-math.com)

We are not mathematicians, but we love mathematics and create formulas ourselves.

'No other science boosts the faith in the strength of the human spirit like mathematics.'  
Hugo Steinhaus

**1 WEEK = 7 DAYS**  
**=**  
**7 FORMULAS**

**NEW MATHEMATICAL FORMULA DAILY**



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$$\sum_{k=1}^{k=\infty} \sin\left(\frac{3^k \times \pi}{5^k}\right) \times \sin\left(\frac{3^k \times \pi}{4 \times 5^k}\right) = \frac{2 + \sqrt{2}}{4} \quad k \in \mathbb{N}$$

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$$\sum_{k=1}^{k=\infty} \frac{2 \times k - 1}{(9 \times k^2 - 18 \times k + 10) \times (9 \times k^2 + 1)} = \frac{1}{9} \quad k \in N$$

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \operatorname{arc\,ctg} \left( (k+2) \times \sqrt{k+1} + (k+3) \times \sqrt{k} - 2 \times \sqrt{k \times (k+1)} - 2 \times k - 1 \right) = \frac{\pi}{2}$$

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$$\sum_{k=1}^{k=\infty} \frac{2 \times k^2 + 32 \times k + 129}{(k + 7) \times (k + 8) \times (k + 9) \times (k + 10)} = \frac{17}{80} \quad k \in \mathbb{N}$$

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$$\sum_{k=1}^{k=\infty} 3^{k-1} \times \sin^3 \left( \frac{\pi}{8 \times 3^{k+1}} \right) = \quad k \in N$$
$$= \frac{\pi - 3 \times (\sqrt{2} + \sqrt{6} - 2) \times \sqrt{8 + 2 \times \sqrt{6} - 4 \times \sqrt{2} - 4 \times \sqrt{3}}}{96}$$

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$$\sum_{k=1}^{k=\infty} \frac{2 \times k^2 + 4 \times k - 3}{(10 \times k^2 + 34 \times k + 37) \times (10 \times k^2 + 54 \times k + 81)} = \frac{1}{270} \quad k \in N$$

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$k \in \mathbb{N}$

$$\sum_{k=1}^{k=\infty} \operatorname{arc\,tg} \left( \frac{2^{k+1}}{2 \times (2^{k-1} - 1) \times (2^k - 1) + 2^{2 \times k + 2}} \right) = \operatorname{arc\,tg} \left( \frac{1}{2} \right)$$

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We invite you every  
week and every day  
to our website  
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Thanks for:  
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